

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

LISTING OF CLAIMS

1-70. (Canceled)

71. (Previously presented) A mouse monoclonal antibody that recognizes a human 8F4 polypeptide, wherein said 8F4 polypeptide:

- a) is an inducible T cell costimulatory molecule;
- b) occurs on two-signal-activated human CD4⁺ T lymphocytes from human peripheral blood;
- c) exhibits a molecular weight of about 55 to 60 kilodaltons as determined by non-reducing sodium dodecyl sulphate polyacrylamide gel electrophoresis (SDS-PAGE); and
- d) is a dimer of two peptide chains exhibiting molecular weights of about 27 kilodaltons and 29 kilodaltons, as measured by reducing SDS-PAGE,

wherein the human 8F4 polypeptide is recognized by the antibody produced by the hybridoma deposited with the Deutsche Sammlung von Mikroorganismen und Zellkulturen GmbH ("DSMZ") and assigned accession no. DSM ACC2539;

and wherein the mouse monoclonal antibody, in conjunction with anti-CD3 monoclonal antibody OKT3, costimulates proliferation of human T lymphocytes.

72. (Previously presented) The mouse monoclonal antibody of claim 71, wherein said mouse monoclonal antibody recognizes the human 8F4 polypeptide of about 55 kilodaltons to 60 kilodaltons, as determined by non-reducing SDS-PAGE.

73. (Previously presented) The mouse monoclonal antibody of claim 71, wherein said mouse monoclonal antibody recognizes the peptide chain of about 27 kilodaltons, as determined by reducing SDS-PAGE.

74. (Previously presented) The mouse monoclonal antibody of claim 71, wherein said mouse monoclonal antibody recognizes the peptide chain of about 29 kilodaltons, as determined by reducing SDS-PAGE.

75. (Previously presented) The mouse monoclonal antibody of claim 71, wherein said mouse monoclonal antibody recognizes a human 8F4 polypeptide present on activated human CD4⁺ T lymphocytes and activated human CD8⁺ T lymphocytes.

76. (Previously presented) A mouse monoclonal antibody that recognizes a human 8F4 polypeptide, wherein said 8F4 polypeptide:

- a) is an inducible T cell costimulatory molecule;
- b) occurs on two-signal-activated human CD4⁺ T lymphocytes from human peripheral blood;
- c) exhibits a molecular weight of about 55 to 60 kilodaltons as determined by non-reducing sodium dodecyl sulphate polyacrylamide gel electrophoresis (SDS-PAGE); and
- d) is a dimer of two peptide chains exhibiting molecular weights of about 27 kilodaltons and 29 kilodaltons, as measured by reducing SDS-PAGE,

wherein the human 8F4 polypeptide is recognized by the antibody produced by the hybridoma deposited with the DSMZ and assigned accession no. DSM ACC2539;

wherein the monoclonal antibody, in conjunction with anti-CD3 monoclonal antibody OKT3, costimulates proliferation of human T lymphocytes,

and wherein the mouse monoclonal antibody inhibits costimulation of T lymphocytes by the human 8F4 polypeptide.

77. (Canceled)

78. (Previously presented) A hybridoma that produces a mouse monoclonal antibody that recognizes a human 8F4 polypeptide, wherein said 8F4 polypeptide:

- a) is an inducible T cell costimulatory molecule;
- b) occurs on two-signal-activated human CD4⁺ T lymphocytes from human peripheral blood;
- c) exhibits a molecular weight of about 55 to 60 kilodaltons as determined by non-reducing sodium dodecyl sulphate polyacrylamide gel electrophoresis (SDS-PAGE); and
- d) is a dimer of two peptide chains exhibiting molecular weights of about 27 kilodaltons and 29 kilodaltons, as measured by reducing SDS-PAGE,

wherein the human 8F4 polypeptide is recognized by the antibody produced by the hybridoma deposited with the DSMZ and assigned accession no. DSM ACC2539;

and wherein the hybridoma produces a mouse monoclonal antibody that, in conjunction with anti-CD3 monoclonal antibody OKT3, costimulates proliferation of human T lymphocytes.

79. (Previously presented) The hybridoma of claim 78, wherein said hybridoma produces a mouse monoclonal antibody that recognizes the human 8F4 polypeptide of about 55 kilodaltons to 60 kilodaltons, as determined by non-reducing SDS-PAGE.

80. (Previously presented) The hybridoma of claim 78, wherein said hybridoma produces a mouse monoclonal antibody that recognizes the peptide chain of about 27 kilodaltons, as determined by reducing SDS-PAGE.

81. (Previously presented) The hybridoma of claim 78, wherein said hybridoma produces a mouse monoclonal antibody that recognizes the peptide chain of about 29 kilodaltons, as determined by reducing SDS-PAGE.

82. (Previously presented) The hybridoma of claim 78, wherein said hybridoma produces a mouse monoclonal antibody that recognizes a human 8F4 polypeptide present on activated human CD4⁺ T lymphocytes and activated human CD8⁺ T lymphocytes.

83. (Previously presented) A hybridoma that produces a mouse monoclonal antibody that recognizes a human 8F4 polypeptide, wherein said 8F4 polypeptide:

- a) is an inducible T cell costimulatory molecule;
- b) occurs on two-signal-activated human CD4⁺ T lymphocytes from human peripheral blood;
- c) exhibits a molecular weight of about 55 to 60 kilodaltons as determined by non-reducing sodium dodecyl sulphate polyacrylamide gel electrophoresis (SDS-PAGE); and
- d) is a dimer of two peptide chains exhibiting molecular weights of about 27 kilodaltons and 29 kilodaltons, as measured by reducing SDS-PAGE,

wherein the human 8F4 polypeptide is recognized by the antibody produced by the hybridoma deposited with the DSMZ and assigned accession no. DSM ACC2539;

wherein the hybridoma produces a monoclonal antibody,

wherein the monoclonal antibody, in conjunction with anti-CD3 monoclonal antibody OKT3, costimulates proliferation of human T lymphocytes;

and wherein the mouse monoclonal antibody inhibits costimulation of T lymphocytes by the human 8F4 polypeptide.

84. (Canceled)

85. (Previously presented) A pharmaceutical composition comprising a monoclonal antibody that recognizes a human 8F4 polypeptide, wherein said 8F4 polypeptide:

- a) is an inducible T cell costimulatory molecule;
- b) occurs on two-signal-activated human CD4⁺ T lymphocytes from human peripheral blood;
- c) exhibits a molecular weight of about 55 to 60 kilodaltons as determined by non-reducing sodium dodecyl sulphate polyacrylamide gel electrophoresis (SDS-PAGE); and
- d) is a dimer of two peptide chains exhibiting molecular weights of about 27 kilodaltons and 29 kilodaltons, as measured by reducing SDS-PAGE,

wherein the human 8F4 polypeptide is recognized by the antibody produced by the hybridoma deposited with the DSMZ and assigned accession no. DSM ACC2539;

and wherein the pharmaceutical composition comprises a monoclonal antibody that, in conjunction with anti-CD3 monoclonal antibody OKT3, costimulates proliferation of human T lymphocytes.

86. (Currently amended) A pharmaceutical composition comprising a monoclonal antibody that recognizes a human 8F4 polypeptide, wherein said 8F4 polypeptide:

- a) is an inducible T cell costimulatory molecule;
- b) occurs on two-signal-activated human CD4⁺ T lymphocytes from human peripheral blood;

c) exhibits a molecular weight of about 55 to 60 kilodaltons as determined by non-reducing sodium dodecyl sulphate polyacrylamide gel electrophoresis (SDS-PAGE); and

d) is a dimer of two peptide chains exhibiting molecular weights of about 27 kilodaltons and 29 kilodaltons, as measured by reducing SDS-PAGE,

wherein the human 8F4 polypeptide is recognized by the antibody produced by the hybridoma deposited with the DSMZ and assigned accession no. DSM ACC2539;

and wherein the pharmaceutical composition comprises a monoclonal antibody;

wherein the monoclonal antibody, in conjunction with anti-CD3 monoclonal antibody OKT3, costimulates proliferation of human T lymphocytes;

and wherein the ~~mouse~~ monoclonal antibody inhibits costimulation of T lymphocytes by the human 8F4 polypeptide.

87. (Canceled)

88. (Previously presented) A method for producing the mouse monoclonal antibody of claim 71 or 76, comprising: culturing an antibody-secreting hybridoma obtained by:

(i) fusion of a myeloma cell line cell with a spleen cell of a mouse immunized with 2-signal-activated human CD4⁺ T lymphocytes from human peripheral blood; and

(ii) selection of a hybridoma that produces said antibody,

such that the mouse monoclonal antibody is produced.

89. (Previously presented) The mouse monoclonal antibody of claim 71 or 76, wherein said mouse monoclonal antibody recognizes the human 8F4 polypeptide of about 55 kilodaltons to 60 kilodaltons, as determined by non-reducing SDS-PAGE.

90. (Previously presented) The mouse monoclonal antibody of claim 71 or 76, wherein said mouse monoclonal antibody recognizes the peptide chain of about 27 kilodaltons, as determined by reducing SDS-PAGE.

91. (Previously presented) The mouse monoclonal antibody of claim 71 or 76, wherein said mouse monoclonal antibody recognizes the peptide chain of about 29 kilodaltons, as determined by reducing SDS-PAGE.

92. (Previously presented) The mouse monoclonal antibody of claim 71 or 76, wherein said mouse monoclonal antibody recognizes a human 8F4 polypeptide present on activated human CD4⁺ T lymphocytes and activated human CD8⁺ T lymphocytes.

93. (Previously presented) The hybridoma of claim 78 or 83, wherein said hybridoma produces a mouse monoclonal antibody that recognizes the human 8F4 polypeptide of about 55 kilodaltons to 60 kilodaltons, as determined by non-reducing SDS-PAGE.

94. (Previously presented) The hybridoma of claim 78 or 83, wherein said hybridoma produces a mouse monoclonal antibody that recognizes the peptide chain of about 27 kilodaltons, as determined by reducing SDS-PAGE.

95. (Previously presented) The hybridoma of claim 78 or 83, wherein said hybridoma produces a mouse monoclonal antibody that recognizes the peptide chain of about 29 kilodaltons, as determined by reducing SDS-PAGE.

96. (Previously presented) The hybridoma of claim 78 or 83, wherein said hybridoma produces a mouse monoclonal antibody that recognizes a human 8F4 polypeptide present on activated human CD4⁺ T lymphocytes and activated human CD8⁺ T lymphocytes.

97. (Canceled)

98. (Canceled)

99. (Previously presented) A hybridoma cell line deposited with the DSMZ and assigned accession no. DSM ACC2539.

100. (Previously presented) A monoclonal antibody 8F4 produced by the hybridoma cell line of claim 99.

101. (Previously presented) The mouse monoclonal antibody of claim 76, wherein the mouse monoclonal antibody inhibition of costimulation of T lymphocytes by the human 8F4 polypeptide is exhibited as an inhibition of 8F4-induced T lymphocyte proliferation.

102. (Previously presented) The mouse monoclonal antibody of claim 76, wherein the mouse monoclonal antibody inhibition of costimulation of T lymphocytes by the human 8F4 polypeptide is exhibited as an inhibition of 8F4-induced ATAC expression.

103. (Previously presented) The mouse monoclonal antibody of claim 76, wherein the mouse monoclonal antibody inhibition of costimulation of T lymphocytes by the human 8F4 polypeptide is exhibited as an inhibition of 8F4-induced CD25 expression.

104. (Previously presented) The mouse monoclonal antibody of claim 76, wherein the mouse monoclonal antibody inhibition of costimulation of T lymphocytes by the human 8F4 polypeptide is exhibited as an inhibition of 8F4-induced CD69 expression.

105. (Previously presented) The mouse monoclonal antibody of claim 76, wherein the mouse monoclonal antibody inhibition of costimulation of T lymphocytes by the human 8F4 polypeptide is exhibited as an inhibition of 8F4-induced TRAP expression.

106. (Previously presented) The mouse monoclonal antibody of claim 76, wherein the mouse monoclonal antibody inhibition of costimulation of T lymphocytes by the human 8F4 polypeptide is exhibited as an inhibition of T lymphocyte induction of immunoglobulin production by B lymphocytes.

107. (Previously presented) The mouse monoclonal antibody of claim 76, wherein the mouse monoclonal antibody inhibition of costimulation of T lymphocytes by the human 8F4 polypeptide is exhibited as an inhibition of 8F4-induced reduction of apoptosis in activated T lymphocytes.

108. (Previously presented) The hybridoma of claim 83, wherein the mouse monoclonal antibody inhibition of costimulation of T lymphocytes by the human 8F4 polypeptide is exhibited as an inhibition of 8F4-induced T lymphocyte proliferation.

109. (Previously presented) The hybridoma of claim 83, wherein the mouse monoclonal antibody inhibition of costimulation of T lymphocytes by the human 8F4 polypeptide is exhibited as an inhibition of 8F4-induced ATAC expression.

110. (Previously presented) The hybridoma of claim 83, wherein the mouse monoclonal antibody inhibition of costimulation of T lymphocytes by the human 8F4 polypeptide is exhibited as an inhibition of 8F4-induced CD25 expression.

111. (Previously presented) The hybridoma of claim 83, wherein the mouse monoclonal antibody inhibition of costimulation of T lymphocytes by the human 8F4 polypeptide is exhibited as an inhibition of 8F4-induced CD69 expression.

112. (Previously presented) The hybridoma of claim 83, wherein the mouse monoclonal antibody inhibition of costimulation of T lymphocytes by the human 8F4 polypeptide is exhibited as an inhibition of 8F4-induced TRAP expression.

113. (Previously presented) The hybridoma of claim 83, wherein the mouse monoclonal antibody inhibition of costimulation of T lymphocytes by the human 8F4 polypeptide is exhibited as an inhibition of T lymphocyte induction of immunoglobulin production by B lymphocytes.

114. (Previously presented) The hybridoma of claim 83, wherein the mouse monoclonal antibody inhibition of costimulation of T lymphocytes by the human 8F4 polypeptide is exhibited as an inhibition of 8F4-induced reduction of apoptosis in activated T lymphocytes.

115. (Previously presented) The pharmaceutical composition of claim 86, wherein the monoclonal antibody inhibition of costimulation of T lymphocytes by the human 8F4 polypeptide is exhibited as an inhibition of 8F4-induced T lymphocyte proliferation.

116. (Previously presented) The pharmaceutical composition of claim 86, wherein the monoclonal antibody inhibition of costimulation of T lymphocytes by the human 8F4 polypeptide is exhibited as an inhibition of 8F4-induced ATAC expression.

117. (Previously presented) The pharmaceutical composition of claim 86, wherein the monoclonal antibody inhibition of costimulation of T lymphocytes by the human 8F4 polypeptide is exhibited as an inhibition of 8F4-induced CD25 expression.

118. (Previously presented) The pharmaceutical composition of claim 86, wherein the monoclonal antibody inhibition of costimulation of T lymphocytes by the human 8F4 polypeptide is exhibited as an inhibition of 8F4-induced CD69 expression.

119. (Previously presented) The pharmaceutical composition of claim 86, wherein the monoclonal antibody inhibition of costimulation of T lymphocytes by the human 8F4 polypeptide is exhibited as an inhibition of 8F4-induced TRAP expression.

120. (Previously presented) The pharmaceutical composition of claim 86, wherein the monoclonal antibody inhibition of costimulation of T lymphocytes by the human 8F4 polypeptide is exhibited as an inhibition of T lymphocyte induction of immunoglobulin production by B lymphocytes.

121. (Previously presented) The pharmaceutical composition of claim 86, wherein the monoclonal antibody inhibition of costimulation of T lymphocytes by the human 8F4 polypeptide is exhibited as an inhibition of 8F4-induced reduction of apoptosis in activated T lymphocytes.

122. (Previously presented) The mouse monoclonal antibody of claim 76, wherein the mouse monoclonal antibody inhibition of costimulation of T lymphocytes by the human 8F4 polypeptide is exhibited as an inhibition of: 8F4-induced T lymphocyte proliferation, 8F4-induced ATAC expression, 8F4-induced CD25 expression, 8F4-induced CD69 expression, 8F4-induced TRAP expression, T lymphocyte induction of immunoglobulin production by B lymphocytes and 8F4-induced reduction of apoptosis in activated T lymphocytes.

123. (Previously presented) The hybridoma of claim 83, wherein the mouse monoclonal antibody inhibition of costimulation of T lymphocytes by the human 8F4 polypeptide is exhibited as an inhibition of: 8F4-induced T lymphocyte proliferation, 8F4-induced ATAC expression, 8F4-induced CD25 expression, 8F4-induced CD69 expression, 8F4-induced TRAP expression, T lymphocyte induction of immunoglobulin production by B lymphocytes and 8F4-induced reduction of apoptosis in activated T lymphocytes.

124. (Previously presented) The pharmaceutical composition of claim 86, wherein the monoclonal antibody inhibition of costimulation of T lymphocytes by the human 8F4 polypeptide is exhibited as an inhibition of: 8F4-induced T lymphocyte proliferation, 8F4-induced ATAC expression, 8F4-induced CD25 expression, 8F4-induced CD69 expression, 8F4-induced TRAP expression, T lymphocyte induction of immunoglobulin production by B lymphocytes and 8F4-induced reduction of apoptosis in activated T lymphocytes.

125. (Previously presented) The mouse monoclonal antibody of claim 71, wherein the costimulation of proliferation of human T lymphocytes is exhibited at a dilution of OKT-3 of 1:10,000.

126. (Previously presented) The mouse monoclonal antibody of claim 71, wherein the costimulation of proliferation of human T lymphocytes is exhibited at a dilution of OKT-3 of 1:5,000.

127. (Previously presented) The mouse monoclonal antibody of claim 71, wherein the costimulation of proliferation of human T lymphocytes is exhibited at a dilution of OKT-3 of 1:2,500.

128. (Previously presented) The mouse monoclonal antibody of claim 71, wherein the costimulation of proliferation of human T lymphocytes is exhibited at a dilution of OKT-3 of 1:1,000.

129. (Previously presented) The mouse monoclonal antibody of claim 76, wherein the costimulation of proliferation of human T lymphocytes is exhibited at a dilution of OKT-3 of 1:10,000.

130. (Previously presented) The mouse monoclonal antibody of claim 76, wherein the costimulation of proliferation of human T lymphocytes is exhibited at a dilution of OKT-3 of 1:5,000.

131. (Previously presented) The mouse monoclonal antibody of claim 76, wherein the costimulation of proliferation of human T lymphocytes is exhibited at a dilution of OKT-3 of 1:2,500.

132. (Previously presented) The mouse monoclonal antibody of claim 76, wherein the costimulation of proliferation of human T lymphocytes is exhibited at a dilution of OKT-3 of 1:1,000.

133. (Previously presented) The hybridoma of claim 78, wherein the costimulation of proliferation of human T lymphocytes is exhibited at a dilution of OKT-3 of 1:10,000.

134. (Previously presented) The hybridoma of claim 78, wherein the costimulation of proliferation of human T lymphocytes is exhibited at a dilution of OKT-3 of 1:5,000.

135. (Previously presented) The hybridoma of claim 78, wherein the costimulation of proliferation of human T lymphocytes is exhibited at a dilution of OKT-3 of 1:2,500.

136. (Previously presented) The hybridoma of claim 78, wherein the costimulation of proliferation of human T lymphocytes is exhibited at a dilution of OKT-3 of 1:1,000.

137. (Previously presented) The hybridoma of claim 83, wherein the costimulation of proliferation of human T lymphocytes is exhibited at a dilution of OKT-3 of 1:10,000.

138. (Previously presented) The hybridoma of claim 83, wherein the costimulation of proliferation of human T lymphocytes is exhibited at a dilution of OKT-3 of 1:5,000.

139. (Previously presented) The hybridoma of claim 83, wherein the costimulation of proliferation of human T lymphocytes is exhibited at a dilution of OKT-3 of 1:2,500.

140. (Previously presented) The hybridoma of claim 83, wherein the costimulation of proliferation of human T lymphocytes is exhibited at a dilution of OKT-3 of 1:1,000.

141. (Previously presented) The pharmaceutical composition of claim 85, wherein the costimulation of proliferation of human T lymphocytes is exhibited at a dilution of OKT-3 of 1:10,000.

142. (Previously presented) The pharmaceutical composition of claim 85, wherein the costimulation of proliferation of human T lymphocytes is exhibited at a dilution of OKT-3 of 1:5,000.

143. (Previously presented) The pharmaceutical composition of claim 85, wherein the costimulation of proliferation of human T lymphocytes is exhibited at a dilution of OKT-3 of 1:2,500.

144. (Previously presented) The pharmaceutical composition of claim 85, wherein the costimulation of proliferation of human T lymphocytes is exhibited at a dilution of OKT-3 of 1:1,000.

145. (Previously presented) The pharmaceutical composition of claim 86, wherein the costimulation of proliferation of human T lymphocytes is exhibited at a dilution of OKT-3 of 1:10,000.

146. (Previously presented) The pharmaceutical composition of claim 86, wherein the costimulation of proliferation of human T lymphocytes is exhibited at a dilution of OKT-3 of 1:5,000.

147. (Previously presented) The pharmaceutical composition of claim 86, wherein the costimulation of proliferation of human T lymphocytes is exhibited at a dilution of OKT-3 of 1:2,500.

148. (Previously presented) The pharmaceutical composition of claim 86, wherein the costimulation of proliferation of human T lymphocytes is exhibited at a dilution of OKT-3 of 1:1,000.

149.-153. (Canceled)

154. (Previously presented) The pharmaceutical composition of claim 85, wherein the monoclonal antibody is a mouse monoclonal antibody.

155. (Previously presented) The pharmaceutical composition of claim 86, wherein the monoclonal antibody is a mouse monoclonal antibody.